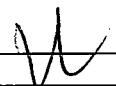


Date: Tuesday, 05/02/2008 8:56:01 AM
 User: Linda Lacelle

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : FLOAT SKID LH 206L1,L3,L4&407
Job Number : 36986	
Estimate Number : 10307	
P.O. Number :	Part Number : D206642511
This Issue : 05/02/2008 S.O. No. :	Drawing Number : N/A
Prsht Rev. : NC	Project Number : N/A
First Issue : 25/01/2008 Type : LANDING GEAR	Drawing Revision : L
Previous Run : 36985	Material :
Written By : 	Due Date : 10/03/2008 Qty: 1 Um: Each
Checked & Approved By :	
Comment : Est Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM Est Rev:C 07-02-23 As per IIN D206-642 Rev K JLM est rev D 07.06.06 added K642-511 EC Est Rev:E 07-12-05 ECN 1080p Rev L DD verified by:	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
----------------	------------------------------	----------------------

1.0	DC	DOCUMENT CONTROL
-----	----	------------------



KS 08-0213 ①

Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels per PPP D206-642-511CHG003

8 08/03/27

2.0	36986A	FLOAT SKIDTUBE ASSEMBLY
-----	--------	-------------------------

**Comment:** Sub-Component FLOAT SKIDTUBE ASSEMBLY

36986A

SP

3.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------

**Comment:** PACKAGING RESOURCE #1

Pick Packing Kit

4.0	K642 511	saddle kit 642-511
-----	----------	--------------------

**Comment:** Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

saddle kit 642-511

37360

SP

5.0	QC4	INSPECT 100% KITS FOR COMPLETENESS
-----	-----	------------------------------------

**Comment:** INSPECT 100% KITS FOR COMPLETENESS

8 08/03/27

6.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------

**Comment:** PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D206-642-511

Location: 

8/3/27 SP

①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 05/02/2008 8:56:01 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FLOAT SKID LH 206L1,L3,L4&407

Job Number: 36986

Part Number: D206642511

Job Number:



Seq. #:

Machine Or Operation:

Description :

7.0

QC21

FINAL INSPECTION/W/O RELEASE



①

Comment: FINAL INSPECTION/W/O RELEASE

2008/03/27

Job Completion



mf

08-03-27

h

B36986A.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

511

11

Date: Friday, 1/25/2008 11:14:18 AM
User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: FLOAT SKIDTUBE ASSEMBLY
Job Number	: 36986A	Part Number	: D206642541
Estimate Number	: 10309	Drawing Number	: D3274 REV D
P.O. Number	:	Project Number	: N/A
This Issue	: 1/25/2008 S.O. No. :	Drawing Revision	: D
Prsht Rev.	: NC	Material	:
First Issue	: / / Type : LANDING GEAR	Due Date	: 3/10/2008 Qty: 1 Um: Each
Previous Run	: 36985A		
Written By	:		
Checked & Approved By	:		
Comment	Est Rev:B 05-09-23 Revised per D206-642 Rev. J KJ/JLM Est Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM Est Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	DC	DOCUMENT CONTROL
-----	----	------------------



Comment: DOCUMENT CONTROL

Photocopy bluefile & type labels per PPP D206-642-541 CHG003

N/A

2.0	D26001190	Extrusion Round 3" 206
-----	-----------	------------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2600-1-190	3" OD Tube	

B 31032 ① K 8-1-28

3.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
-----	----------------	-------------------------



Comment: LANDING GEAR RESOURCE 1

1-Cut D2600-1 to 190.00" in length as per Dwg D3274 and Deburr ends

2-Drill #40 Aft cap pilot hole using DT8025

3-Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D. Drill 3/16" pilot holes as per Dwg D3274

4-Remove inner indexing ridge on aft end of skidtube as per Dwg D3274

5-Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

8-1-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 1/25/2008 11:14:18 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FLOAT SKIDTUBE ASSEMBLY

Job Number: 36986A

Part Number: D206642541

Job Number:



Seq. #

Machine Or Operation:

Description:

4.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid Etch and Alodine tube as per QSI 005 4.1

SL 8-1-28

5.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

a.m. 09.01.28 (M)

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/01/28 (M)

7.0

D3282041

I-Beam



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D3282-041 Float Web

B 35211

(M)

8-1-28

8.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open Ø0.313" crossbolt spacer holes using DT8743 as per Dwg D3274

2-Open Ø0.375" crossbolt spacer holes using DT8744 as per Dwg D3274

3-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube

4-Bond web in place as per Dwg D3274 & QSI 015.

A/R Sikaflex-291

M 105469

Sikaflex expire date:

8-1-30

Start: 8:28

Time: 2:30

Finish: 02/01/29

Time: 2:25 PM

(Adhere for 12 hours)

(M) 8-1-28

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

05/01/29 (M)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No ☒ DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 1/25/2008 11:14:18 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FLOAT SKIDTUBE ASSEMBLY

Job Number: 36986A

Part Number: D206642541

Job Number:



Seq. #:

Machine Or Operation:

Description:

10.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Bend tube using program D3274 as per Dwg D3274. Install drop pins in cross bolt spacer holes to maintain web position.

2-Cut Fwd end of tube to length as per Dwg D3274

*****Verify dimensions before and after cutting*****

3-Remove inner indexing ridge on Fwd end of skidtube as per Dwg D3274

4- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2
OPEN HOLES TO .297"

5-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD END OF TUBE
DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES)
REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES

6- Countersink crossbolt spacer holes as per Dwg D3274

11.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

12.0

D32851

Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 D3285-1

Fwd Cap

233902

BE 08/02/04

13.0

D2649

Crossbolt Spacer



Comment: Qty.: 12.0000 Each(s)/Unit Total: 12.0000 Each(s)

Pick:

Qty Part Number

Description Batch

12 D2649






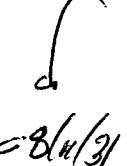

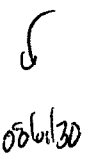
Crossbolt spacer

236013

BE 08/02/04

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: 1006-642-541 PAR #: N/A Fault Category: Prod / Landing gear NCR: Yes No DQA: DD Date: 08/03/27
 QA: N/C Closed: _____ Date: _____

NCR: <u>36986 A</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08/01/30	# 10.1	After bending it was found that the top nuts on the Base Roller shafts on the Bender were installed too loose causing the skid to move during		See Attached E-mail from DAVID Shephard (tube "B")	BE 08/02/01 ↓	 08/01/31	 Passion	 08/01/30
		Trouling from APT to FWD. R.C. reference on Bender change			↓ 08/01/31	 08/01/31	 Passion	 08/01/30

NOTE: Date & initial all entries

Date: Friday, 1/25/2008 11:14:18 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FLOAT SKIDTUBE ASSEMBLY

Job Number: 36986A

Part Number: D206642541

Job Number:



Seq. #:

Machine Or Operation:

Description:

14.0

D32751

Crossbolt Spacer



Comment: Qty.: 12.0000 Each(s)/Unit Total: 12.0000 Each(s)

Pick:

Qty Part Number Description Batch

12 D3275-1 Crossbolt spacer

B34619

BE 08/02/04

15.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Weld Fwd Cap as per Dwg D3274 and QSI 004. Use aluminum rod.

A/R Aluminum Rod *M106390 / M106330* *BE 08/02/04*

2-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod

A/R Aluminum Rod *M106330*

BE 08/02/04

3-Grind welds flush to Fwd cap on top surface only.

A.M 08.02.04 *(1)*

4-Grind cross bolt welds flush as per Dwg D3274. Masking Tape access to inside of the skidtube

A.M 08.02.04

5-Counterbore 5/16" x 0.750" deep as per Dwg D3274. Use DT8743 visual aid Jig and deburr.

A.M 08.02.04

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/02/05 *(1)*

17.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

PD 08-02-05 *(1)*

18.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



(1X)

Comment: HAND FINISHING RESOURCE #1

Pressure wash as per QSI 005

M. 08/02/05

19.0

POWDER COATING

POWDER COATING



(1X)

Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

M. 08/02/06

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 1/25/2008 11:14:18 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FLOAT SKIDTUBE ASSEMBLY

Job Number: 36986A

Part Number: D206642541

Job Number:



Seq. #:

Machine Or Operation:

Description :

20.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



JS



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

08-02-07

(X1)

21.0

D3415041

Nut Plate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D3415-041 Nut Plate 1333842

JS

22.0

CCR264SS33

Cherry Rivet



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part Number Description Batch

2 CCR264SS3-3 Rivet M106825

JP

23.0

CR3212403

Cherry Rivet



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part Number Description Batch

2 CR3212-4-03 Rivet M15918

JS

24.0

ALS71032130

Insert



Comment: Qty.: 78.0000 Each(s)/Unit Total : 78.0000 Each(s)

Insert

Batch: M105729

*

JS

25.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets.

✓ A/RN/ALPS-3 M106096

2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a

JS

08-02-07

(X1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 1/25/2008 11:14:19 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FLOAT SKIDTUBE ASSEMBLY

Job Number: 36986A

Part Number: D206642541

Job Number:



Seq. #:

Machine Or Operation:

Description:

A/R Sikaflex-291

M105585

Sikaflex expire date:

08-07

→ M1 08-02-07 (X1)

26.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Inspect Nut Plate & Inserts

08/02/07 (X1)

27.0

AN3C4A

BOLT



Comment: Qty.: 80.0000 Each(s)/Unit Total: 80.0000 Each(s)

BOLT

Batch: M107008

M1

28.0

D353515

WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEARSHOE

Batch: B36653

M1

29.0

D353523

WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEARSHOE

Batch: B35218

M1

30.0

D353535

WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEARSHOE

Batch: B36194

M1

31.0

D353539

WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEARSHOE

Batch: B35257

M1

32.0

D353615

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

GASKET

Batch: B33964

M1

08-02-07 (X1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 1/25/2008 11:14:19 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FLOAT SKIDTUBE ASSEMBLY

Job Number: 36986A

Part Number: D206642541

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

33.0	D353623	GASKET
------	---------	--------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B33965

Y1

34.0	D353635	GASKET
------	---------	--------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B36609

Y1

35.0	D353639	GASKET
------	---------	--------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B33966

Y1

36.0	D35371	WEARPAD
------	--------	---------



Comment: Qty.: 9.0000 Each(s)/Unit Total : 9.0000 Each(s)

WEARPAD

Batch: B36714

Y1

37.0	D35373	WEARPAD
------	--------	---------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARPAD

Batch: B33285

Y1

38.0	AN960C10L	washer
------	-----------	--------



Comment: Qty.: 80.0000 Each(s)/Unit Total : 80.0000 Each(s)

Pick:

Qty Part Number

Description Batch

80 AN960C10L

Washer M107008

Y1

39.0	D36721	PHENOLIC WASHER
------	--------	-----------------



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Washer

batch B34470

Y1

08-02-07

(X1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 1/25/2008 11:14:19 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FLOAT SKIDTUBE ASSEMBLY

Job Number: 36986A

Part Number: D206642541

Job Number:



Seq. #:

Machine Or Operation:

Description :

40.0

D34131

Ring



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D3413-1 Ring B33949 311

41.0

AN4C5A

BOLT



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 AN4C5A Bolt M1104936 980

42.0

AN960C416

washer



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 AN960C416 Washer M1100993 311

43.0

D2646

Aft Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2646 Aft Cap B336184 311

44.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

2-Install wearpads & gaskets as per Dwg D3274.

3-Install ring as per Dwg D3274

A/R Sikaflex-291 M1105585

Sikaflex expire date: 08-07

4-Inspect for foreign objects as per QSI 024

5-Spray inside of tube on both sides of web with LPS-3

A/R LPS-3 Batch: M106096

6-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

311

08-02-07

311

08-02-07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 1/25/2008 11:14:19 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FLOAT SKIDTUBE ASSEMBLY

Job Number: *36986A

Part Number: D206642541

Job Number:



Seq. #:

Machine Or Operation:

Description :

A/R Sikaflex-291

M105585

Sikaflex expire date:

08-01

MI

08-02-07 (X)

45.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5 08/02/07

46.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and stock

Location:

PP 36986

8/3/27

50

(A)

47.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



mf

08-03-27

W

①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN CP	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3274	REV. D SHEET 1 OF 4
DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY	SCALE NTS
A	04.03.15	NEW ISSUE	
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76	
C	05.03.16	ADD -043; NEW INSERTS	
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET	

RELEASED

07.02.12 **[Signature]**

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

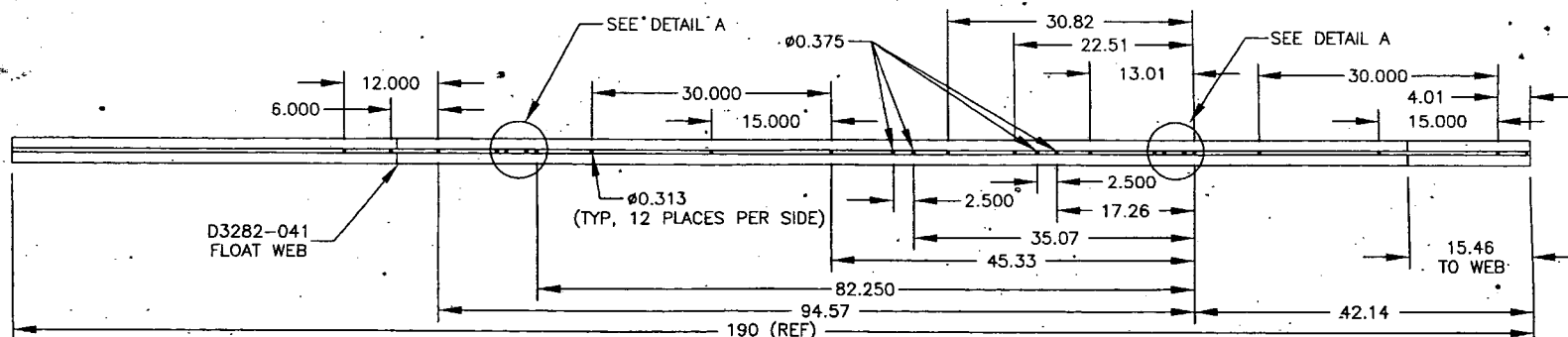
GENERAL NOTES:

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

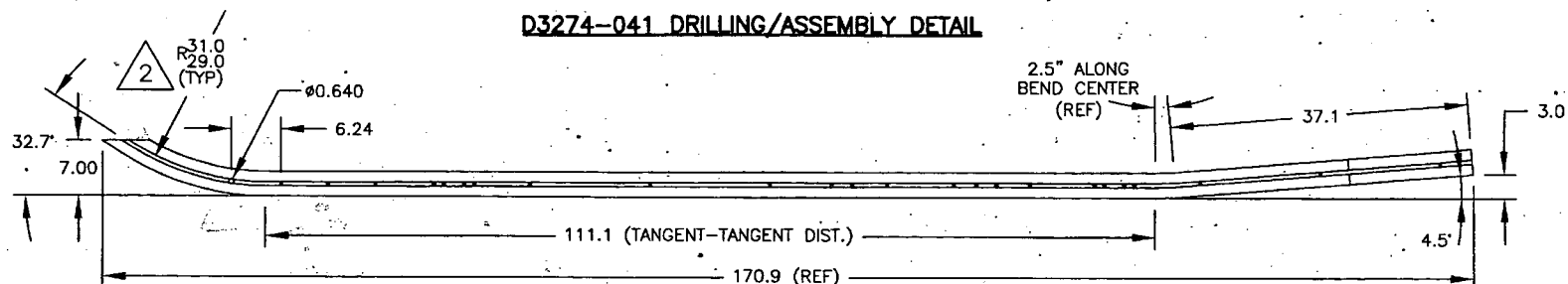
TOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. **36986A**

Copyright © 2004 by DART AEROSPACE USA, INC.

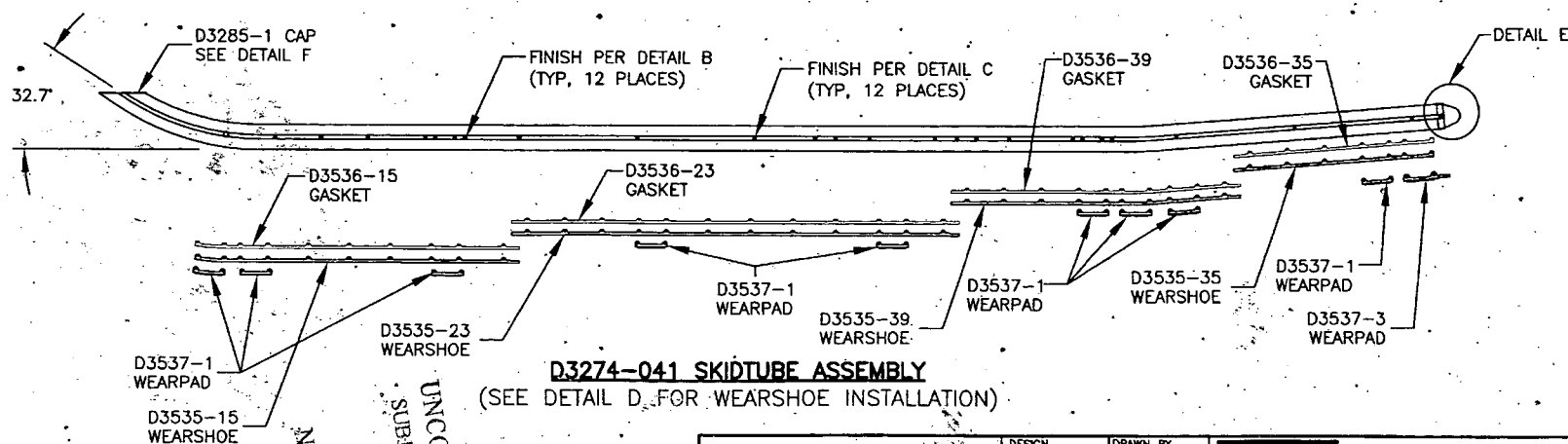
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.



D3274-041 DRILLING/ASSEMBLY DETAIL



D3274-041 BEND/DRILLING DETAIL



D3274-041 SKIDTUBE ASSEMBLY

(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

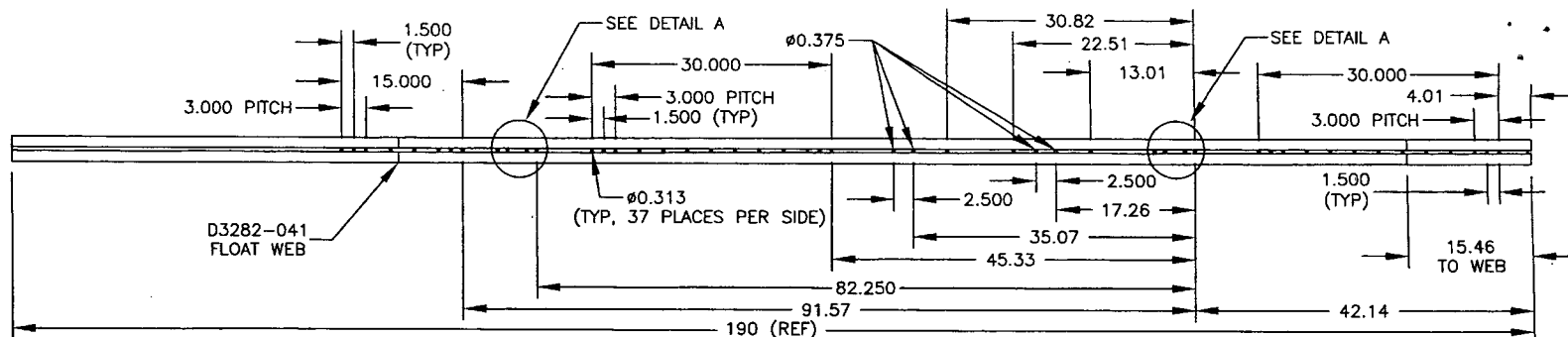
07.02.12

NO. 36986A
WORK ORDER
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE

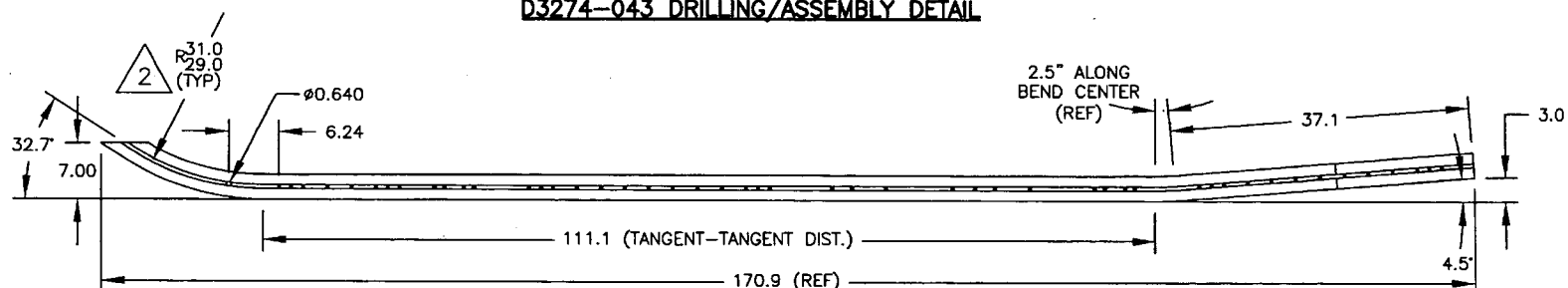
COPYRIGHT © 2004 BY DART AEROSPACE USA, INC.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

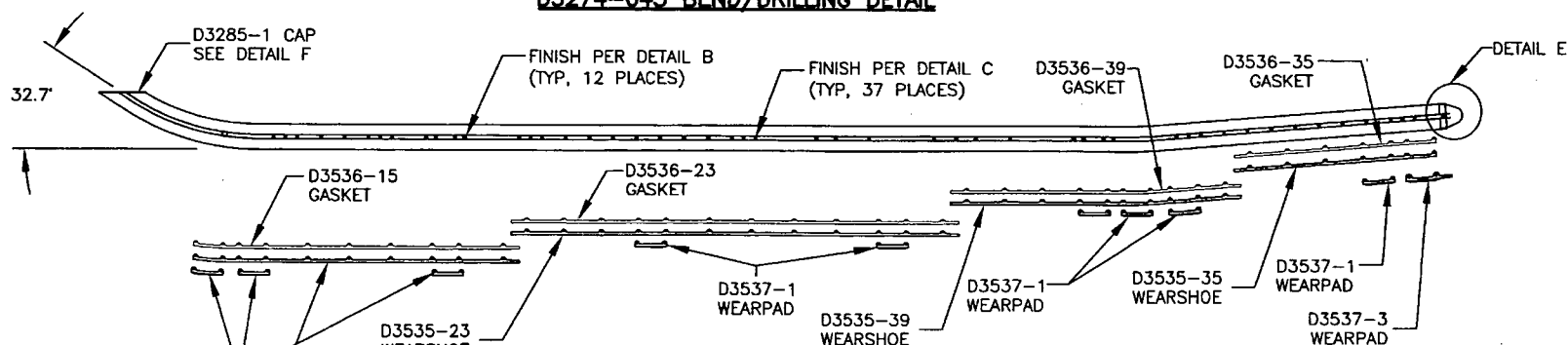
DESIGN	CP	DRAWN BY	PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, OH	REV. D
CHECKED	#	APPROVED	#	DRAWING NO. D3274	SHEET 2 OF 4
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	SCALE	1:15



D3274-043 DRILLING/ASSEMBLY DETAIL



D3274-043 BEND/DRILLING DETAIL



D3274-043 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

07.02.12

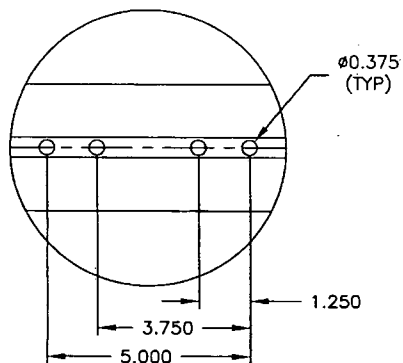
NO. 36986A
WORK COPY
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
SHOP COPY
RETURN TO
ENGINEERING

COPYRIGHT © 2004 BY DART AEROSPACE USA, INC.

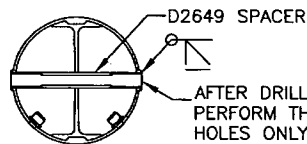
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

DESIGN	CP	DRAWN BY	PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, MA	REV. 0
CHECKED	#	APPROVED	#	DRAWING NO. D3274	SHEET 3 OF 4
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	SCALE	1:15

DETAIL A: DRILL DETAIL

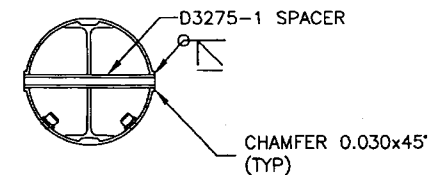


DETAIL B FOR 0.375 HOLES ONLY

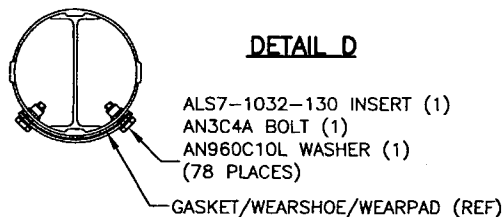


- AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR 0.375
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. C'BORE TO 0.313x0.75 DEEP

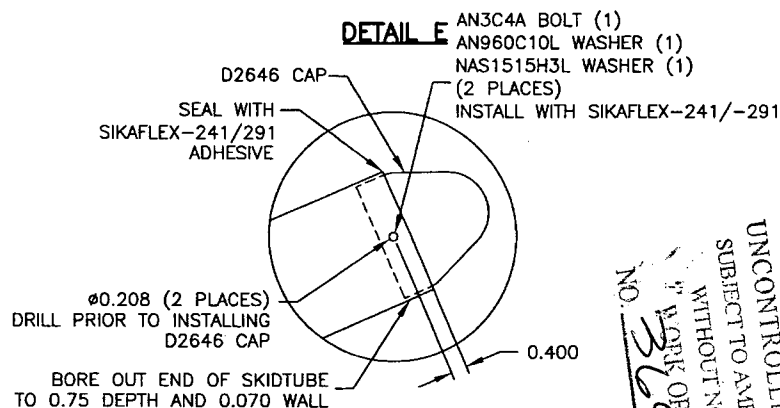
DETAIL C FOR 0.313 HOLES ONLY



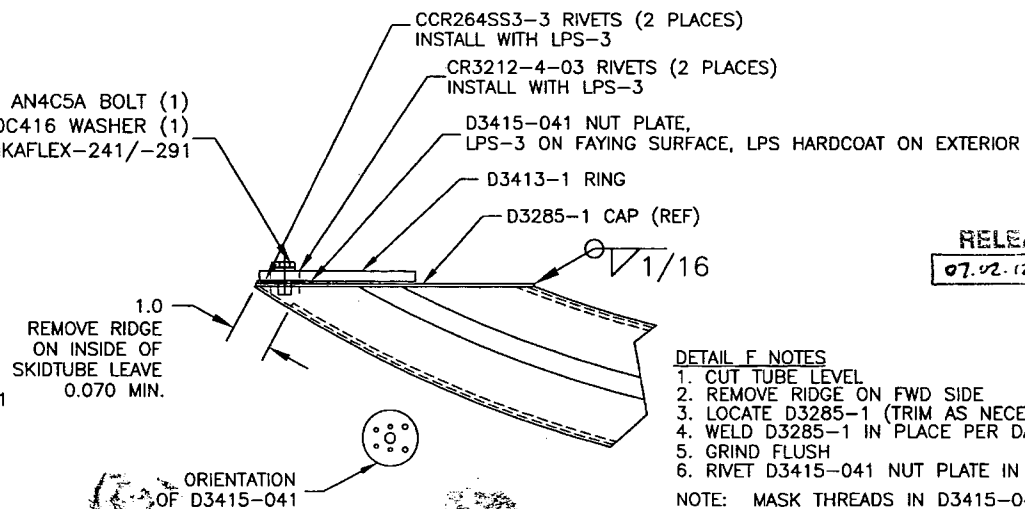
DETAIL D



DETAIL E



DETAIL F: END FINISHING DETAIL



DETAIL F NOTES

1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D3285-1 (TRIM AS NECESSARY)
 4. WELD D3285-1 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

RELEASED
07.02.12

COPYRIGHT © 2004 BY DART AEROSPACE USA, INC.		DESIGN	DRAWN BY	DART AEROSPACE USA, INC. PORT HADLOCK, MA	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.		CP	PH	DRAWING NO. D3274	REV. D SHEET 4 OF 4
DATE 06.12.19		CHECKED	APPROVED	TITLE SKIDTUBE ASSEMBLY	SCALE 1:3

NO. 369864
WORK ORDER
UNCONTROLLED COPY
RETURN TO
ENGINEERING
SUBJECT TO AMENDMENT
WITHOUT NOTICE

Jason Murdoch

From: David Shepherd [dshepherd@dartaero.com]
Sent: January 30, 2008 2:59 PM
To: 'Jason Murdoch'
Cc: bbeckett@dartaero.com; 'Cris Provencal'; 'mpetsche@dartaero.com'; 'L Lacelle'; 'Susanne Sheldon'
Subject: RE: D206-642-541 Skid tubes

Eric,

Thanks for putting this email together.

As we discussed on the phone, we have too much money into these tubes to scrap them at this point without a really good reason.

While these do not conform to the drawing, I believe them to be structurally acceptable for installation on the aircraft.

Therefore, I reluctantly accept these deviated skid tubes.

I think this deserves a pink NCR and some re-training.

I can understand making one like this, but 3???

These are big money bends and the guys who are doing it HAVE to realize that and somehow double check their setup before pushing the pedal.

David

From: Jason Murdoch [mailto:jmurdoch@dartaero.com]
Sent: Wednesday, January 30, 2008 12:05 PM
To: David Shepherd; David Shepherd; 'mpetsche@dartaero.com'
Cc: bbeckett@dartaero.com; Cris Provencal
Subject: D206-642-541 Skid tubes

Hello David its Eric Downing

As discussed earlier on the phone here is the brief description of what happened to the three D206-642-541 Skid tubes.

The bender was not set up correctly. The top holding nuts were not set at the correct tightness causing the DX roller (left size if you were looking at the control) and caused the tube to slip/moved as it was traveling from bending the aft to the fwd section.

Here are the dimensions for the affected tubes:

Tube "A" B36935 Total Length 171.250"
Tangent to Tangent 114.1"
Aft Height 3.0"

Tube "B" B36986 Total Height 170.563"
Tangent to Tangent 114.1"
Aft Height 3.25"

Tube "C" B 36984 Total Height 170.375"
Tangent to tangent 114.1"
Aft Height 3.06"

30/01/2008

The Root Cause was due to some inexperience in the landing gear cell.

Thanks for your time David

Eric Downing

Jason Murdoch

Qc. Coordinator

jmurdoch@dartaero.com

No virus found in this incoming message.

Checked by AVG Free Edition.

Version: 7.5.516 / Virus Database: 269.19.16/1251 - Release Date: 1/30/2008 9:29 AM

No virus found in this outgoing message.

Checked by AVG Free Edition.

Version: 7.5.516 / Virus Database: 269.19.16/1251 - Release Date: 1/30/2008 9:29 AM

30/01/2008

NO. 137

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name Barclay E
Joint Welding Procedure GTAW
Part number and Job number DAC6612341 / B36135

TEST WELDS REQUIRED

BASE METAL Aluminum WELDING PROCESS ts
Penetration Complete ☐ Partial ☒ Single Weld ☒ Double Weld ☐
Current AC ☒ DC ☐ Backing YES ☐ NO ☒

	Position	Vertical	Down <input type="checkbox"/>	Up <input type="checkbox"/>
Sheet Groove	1G <input type="checkbox"/>	2G <input type="checkbox"/>	3G <input type="checkbox"/>	4G <input type="checkbox"/>
Tube Groove	1G <input type="checkbox"/>	2G <input type="checkbox"/>	5G <input type="checkbox"/>	6G <input type="checkbox"/>
Sheet Fillet	1F <input type="checkbox"/>	2F <input type="checkbox"/>	3F <input type="checkbox"/>	4F <input type="checkbox"/>
Tube Fillet	1F <input type="checkbox"/>	2F <input type="checkbox"/>	4F <input type="checkbox"/>	5F <input type="checkbox"/>

Crossbolt Spacer Welded into Skid tube

TEST RESULTS

Visual Pass ☒ Fail ☐
Penetration Pass ☒ Fail ☐
Crossbolt Spacer Pass ☒ Fail ☐

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

Date of Test Coupon 08-01-07 Qualifier Del. Duval